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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

GOOGLE LLC,
Plaintiff and Counterdefendant,
v.
SONOS, INC.,
Defendant and Counterclaimant.

Case No. 3:20-cv-06754-WHA
Related Case No. 3:21-cv-07559-WHA

**SONOS'S REPLY IN SUPPORT OF ITS
MOTION FOR SUMMARY JUDGMENT
OF INFRINGEMENT OF '885 PATENT
CLAIM 1**

Date: June 9, 2022
Time: 8:00 a.m.
Place: Courtroom 12, 19th Floor
Judge: Hon. William Alsup

Complaint Filed: September 28, 2020

PUBLIC REDACTED VERSION

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1 **I. INTRODUCTION**

2 Infringement is straightforward when claim 1 of '885 Patent is properly interpreted. *See* D.I.
3 208. Recognizing this, Google concocted three noninfringement positions based on three erroneous
4 claim interpretations that are not supported by the intrinsic evidence. As a desperate fall back,
5 Google also asserted three invalidity defenses: two written description arguments and an
6 unpatentable subject matter assertion. The Court should reject these invalidity arguments because
7 they ignore the teachings of the '885 specification and mischaracterize the claimed invention.

8 **II. ARGUMENT**

9 **A. Google's Noninfringement Arguments Fail**

10 **i. A Google Speaker Group Is a Claimed "Zone Scene"**

11 Google argues that its speaker groups are not "zone scenes" as required by claim 1. To
12 support its position, Google makes the same flawed claim construction arguments that it made in
13 its own summary judgment motion. *Compare* D.I. 249, 2-7 with D.I. 211, 21-25. For the reasons
14 explained in Sonos's opposition to Google's motion (D.I. 251, 23-25), as well as the reasons set
15 forth in Sonos's motion at issue here (D.I. 208, 8-11), Google's arguments should be rejected.

16 There is no dispute that Google's speaker groups are the claimed "zone scenes" under the
17 proper construction proposed by Sonos: "a previously-saved grouping of zone players that are to
18 be configured for synchronous playback of media when the zone scene is invoked." *See* D.I. 208,
19 8-10.¹ Google only disputes that its speaker groups are "zone scenes" under its own construction,
20 which is "a previously-saved group of zone players according to a common theme," based on
21 Google's theory that (i) its construction requires a "zone scene" to include "'theme' attributes"
22 other than a *thematic name* and (ii) Google's speaker groups do not include any such "attributes."
23 *See* D.I. 249, 2-7. But this theory is based on a new, erroneous interpretation of Google's proposed
24 construction, as confirmed by Google's own prior characterization of its proposed construction.

25 Under a proper interpretation, the plain language of Google's "zone scene" construction
26 encompasses any "grouping of zone players" that has been "previously saved" in a way that reflects
27 a "common theme" of that grouping. *See* Ex. R (Almeroth Reply Decl.), ¶8. And as such, a

28 ¹ Because Google's proposed construction is not law of the case (*see* D.I. 184, 1-2; D.I., 202, 1-4), it is Google (not Sonos) that is "[a]ttempting to argue claim construction at this late stage [which] is prejudicial to [Sonos] and improper under this Court's rules" *See* D.I. 249, 4.

1 “grouping of zone players” that has been “previously saved” with a *thematic name* reflecting a
 2 “common theme” of the group – such as “Morning” – clearly meets Google’s construction.

3 This interpretation is entirely consistent with the disclosure of the ’885 Patent, which draws
 4 a direct connection between a *name* of a “zone scene” and a “common theme” of the “zone scene.”
 5 For instance, the ’885 specification refers to an exemplary “zone scene” having a “morning” theme
 6 at three different points, and each time, the ’885 specification states that the exemplary “zone scene”
 7 is “*named after ‘Morning’*” – which reflects that the “zone scene” is for listening to synchronous
 8 audio in the morning. *See* D.I. 208-2, Ex. A (’885 Pat.), 3:53-56, 8:52-61, 10:39-41. This statement
 9 definitively establishes that a name is one way to reflect a “common theme” of the “zone scene.”

10 This interpretation is also consistent with how Google itself characterized its construction
 11 in the related Texas action. There, Google’s briefing repeatedly acknowledged that “Morning” was
 12 an example of “thematic information” that would qualify as a “common theme,” while also citing
 13 to the foregoing disclosure of a “zone scene” that is “*named after ‘Morning.’*” *See* Sonos 7559,
 14 D.I. 64 at 13-14. Then, during the hearing, Google’s counsel described a “zone scene” as follows:

15 Your Honor, [] if you look at this provisional, it says, for example, *morning scene*.
 16 That’s exactly what’s in the specification that I showed you, what I was reading: For
 17 example, *a “Morning” scene* includes three zone players, each in a bedroom, den
 and dining room. This is showing the exact same thing, and *it’s giving it a theme*.
It’s called “morning scene.”

18 *See* Sonos 7559, D.I. 106, 29; *see also id.*, 30-31 (“[T]he theme would be, for example, grouping
 19 three areas as . . . a *morning theme* because you get up in the morning and these are the three areas
 20 you want to have music in.”). Google’s statement confirms that giving a “zone scene” a *thematic*
 21 *name*, such as “Morning,” is one way to “*give[] it [a] theme*” under Google’s construction.

22 Determined to avoid infringement, Google ignores the plain language of its construction,
 23 the specification, and its own prior characterization of that construction, and instead imports new
 24 limitations into the phrase “common theme” that would require the claimed “zone scene” to include
 25 “‘theme’ attributes” other than a thematic name. *See* D.I. 249, 4-7. Google’s attempt to import
 26 these additional limitations into claim 1 is improper for numerous reasons. *See* Ex. R, ¶12-15.

27 *First*, nothing in the language of claim 1 supports interpreting “common theme” to require
 28 anything beyond a thematic name, which is a clear example of a “‘theme’ attribute.” *Id.*, ¶12.

1 *Second*, while Google is now arguing that the “common theme” of its construction requires
 2 “attributes” such as volume settings, mute settings, specific music to be played, play mode, and
 3 playback equalization (D.I. 249, 4-5), Google has not explained how any of these “attributes”
 4 reflects a “common theme” of the “zone scene.” *Id.*, ¶13. In contrast, the ’885 Patent and Google
 5 both acknowledge that a thematic name like “Morning” *does* reflect a “common theme.” *Id.*

6 *Third*, the intrinsic evidence makes clear that the “attributes” Google identified are not a
 7 required aspect of a “zone scene,” but rather are *optional* settings that are only included in *some*
 8 “zone scene” embodiments. For example, while the ’885 specification describes an embodiment
 9 of a “zone scene” where these exemplary “attributes” “*could*” be applied after a “zone scene” is
 10 invoked, it also describes other “zone scene” embodiments without any such “attributes.” *Compare*
 11 ’885 Pat., 9:16-30 with 8:53-61, 10:4-19; *see also* D.I. 249-10, Ex. 6 (’407 Provisional), 13²; Ex.
 12 R, ¶4. Thus, it would be improper to import these “attributes” into claim 1. *See* D.I. 251, 24.

13 *Fourth*, nothing in the intrinsic evidence supports Google’s assertion that these other
 14 “attributes” are what differentiates “zone scenes” from “conventional and well-known speaker
 15 groups.” *See* D.I. 249, 5. To the contrary, the intrinsic evidence shows that the ’885 claims include
 16 various other features that differentiate from “conventional” audio systems. *See* Ex. R, ¶15. For
 17 instance, claim 1 is directed to “zone scenes” comprising groupings of “zone players,” which are
 18 data network devices with processors and memory that output audio in synchrony by
 19 “coordinating” with one another over a data network. *Id.* Additionally, the claimed “zone player”
 20 is capable of being added to multiple different “zone scenes,” each of which comprises a
 21 previously-saved, “predefined grouping” of “zone players” that are “to be configured for
 22 synchronous playback of media” at some future time “when the [zone scene] is invoked.” *Id.* There
 23 is no evidence whatsoever that “conventional” audio systems had these technical capabilities.

24 For these reasons, even if the Court adopts Google’s construction of “zone scene,” that
 25 construction is clearly met by any Google speaker group that has a *thematic name*. *Id.*, ¶16. And
 26 there is no dispute that each Accused Google Player is capable of being included in speaker groups
 27 that have thematic names like “Morning,” “Afternoon,” “Evening,” “Garden,” etc. D.I. 208, 8-11.

28
² The incorporated priority Provisional application is part of the ’885 specification. *See Trustees of Columbia Univ. in City of New York v. Symantec Corp.*, 811 F.3d 1359, 1366 (Fed. Cir. 2016).

ii. Google's [REDACTED] Is an "Indication" That the Receiving Accused Google Player "Has Been Added" to a Speaker Group

Each of limitations 1.6 and 1.7 (Google's limitations 1.5(i) and 1.5(ii)) recite that the "first zone player" is capable of "receiving, from a network device over a data network, a [] indication that the first zone player has been added to a [] zone scene."

The evidence indisputably shows that (i) the process for creating a new Google speaker group involves a user selecting Accused Google Players to **add** to the speaker group via the Google Home app on the user's controller device (the claimed "network device"), [REDACTED]

[REDACTED]. See D.I. 208, 4-7, 16-18. For instance, in its response to Sonos's Interrogatory No. 13 (D.I. 208.03, Ex. B, 9), Google admitted:

See also Ex. S (Mackay ITC Dep. Tr.), 112:2-5 [REDACTED]

[REDACTED] Google's website (D.I. 208-6, Ex. E, 7068) similarly instructs a user creating a speaker group to "[t]ap each device you want to **add** to the group":

Create an audio group

1. Make sure your mobile device or tablet is [connected to the same Wi-Fi or linked to the same account](#) as your Chromecast, or speaker or display.
2. Open the Google Home app.
3. At the top left, tap Add + > Create speaker group.
4. Tap each device you want to **add** to the group. A check ✓ will appear next to each device you select.
5. Tap Next > Enter a name for your group > Save.

This evidence clearly establishes that each [REDACTED]

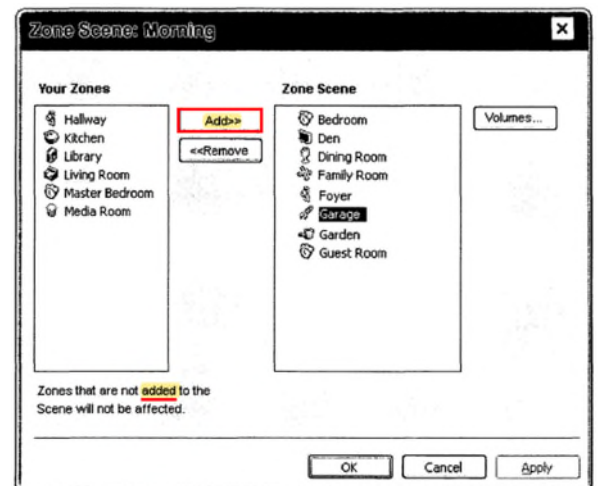
Faced with these admissions and other evidence of infringement, Google now tries to rewrite the "has been added" language of limitations 1.6 and 1.7 so that instead of requiring the "zone player" to receive "indications" that it "***has been added***" to "zone scenes" at the "network device" based on user input, it would require that the "first zone player" to receive indications that it has ***already previously "joined" itself*** to the "zone scenes." See D.I. 249, 7-8. As such, Google

1 is conflating the network device's act of **adding** a "zone player" to a "zone scene" based on user
 2 input – which is what is claimed – with the zone player's subsequent act of **associating itself with**
 3 (*i.e.*, **"joining"**) a "zone scene." And Google then relies on this rewrite to argue that because the

4 [REDACTED]
 5 [REDACTED] *Id.* However,
 6 Google's convoluted theory is based on an erroneous interpretation of the claimed "indication" that
 7 is contrary to the plain claim language and excludes the preferred embodiment in the '885 Patent.³

8 To start, the plain language of the "indication" limitations does not say anything about
 9 whether the "first zone player" **has already "joined" itself** to a "zone scene" before a claimed
 10 "indication" is received. Instead, the plain language describes the "first zone player" receiving,
 11 from a "network device," an "indication" that that the "first zone player" **"has been added"** to a
 12 "zone scene." The claim's use of the past-tense phrase "has been added" here when describing the
 13 "indication" that is received "from **a network device**" logically establishes that the claim is referring
 14 to some "add[]" action that previously took place **at the "network device"** prior to the "indication"
 15 being sent and received – namely, the action of adding a "zone player" to a "zone scene" at the
 16 "network device" based on user input – and not some prior "join" action that would have been taken
 17 by the "zone player" independent of the "network device," as Google asserts. *See* Ex. R, ¶22.

18 Consistent with the logical reading of the
 19 claim language, the '885 Patent only uses the term
 20 "add" or "added" in the context of the user
 21 interface for creating a zone scene and specifically
 22 the **"add"** actions that are carried out **at the**
 23 **controller device** (*i.e.*, the claimed "network
 24 device") in order to create the "zone scene" prior
 25 to it being saved. For instance, with respect to



26 Figure 5A (annotated here), the specification explains that a "user interface 500" on a controller
 27 can be used to create a "zone scene" by **"add[ing]"** or removing zone players from the zone scene

28 ³ *See Kaneka Corp. v. Xiamen Kingdomway Grp. Co.*, 790 F.3d 1298, 1304 (Fed. Cir. 2015) ("A claim construction that excludes a preferred embodiment is 'rarely, if ever, correct.'").

via “Add/Remove buttons.” ’885 Pat., 5:19-20, Fig. 5A. The ’885 Patent also makes clear that the *controller device’s* action of *adding* zone players to a zone scene based on user input via the above “Add” button precedes and is distinct from the *zone player’s* action of *associating itself with* (i.e., *joining*) the zone scene, which cannot take place until after the zone player has been “added” to the zone scene at the controller device. *See* Ex. R, ¶23.

Relatedly, the ’885 Patent never once uses the term “add” or “added” to refer to the “zone player’s” action of associating itself (i.e., joining) with a “zone scene” that has previously been created at the user’s controller device, as Google’s interpretation would require. *Id.*, ¶24

This intrinsic evidence confirms that each of limitations 1.6-1.7 is referring to an “indication” that the “zone player” has been “added” to a “zone scene” *at the “network device”* based on user input – not that it has “joined” the “zone scene.” *Id.*, ¶25. And as established by the evidenced cited above, the accused [REDACTED] indisputably satisfy these limitations.

iii. There Is No Requirement That the Claimed “Indications” Include Identifiers for the “Zone Players” in the “Zone Scenes”

Google also disputes that its [REDACTED] amount to the claimed “indications” of limitations 1.6 and 1.7 based on the theory that each “indication” must include identifiers for the “zone players” that have been added to the “zone scenes” and that Google’s [REDACTED]
[REDACTED]
[REDACTED] *See* D.I. 249, 9-11. Again, Google’s claim interpretation is flawed.

The particular claim language at issue is:

a [given] indication that the first zone player has been added to a [given] zone scene comprising a [given] predefined grouping of zone players including at least the first zone player and a [given other] zone player that are to be configured for synchronous playback of media when the [given] zone scene is invoked;

According to Google, the “comprising” phrase in the latter part of this clause modifies the term “indication” at the beginning of the clause such that it requires the “indication” itself to “comprise ‘at least the first zone player and a [given other] zone player’” – which Google then interprets to mean that the “indication” must include identifiers of the added “zone players.” *Id.*

Google’s interpretation is inconsistent with the plain language of the clause. As written, the “comprising” phrase clearly modifies the term “*zone scene*” that immediately precedes it, not the

term “*indication*” that appears earlier in the clause.⁴ See Ex. R, ¶32. As such, the “comprising” phrase serves to define what the claimed “*zone scene*” is required to include – not what the claimed “*indication*” is required to indicate. *Id.* In this way, the “indication” must be an “indication that the first zone player has been added to [a given] zone scene” – nothing more is required by the “indication.” Separately, the “zone scene” to which the “zone player” has been added must comprise “[a] predefined grouping of zone players including at least the first zone player and [another] zone player,” but this is distinct from what the “indication” must indicate. Thus, there is no requirement that each claimed “indication” include identifiers of the added “zone players.” *Id.*

As explained above, each accused [REDACTED]
[REDACTED]
[REDACTED] which is all that needed for infringement under the proper interpretation of each claimed “indication.” *Supra* II.A.ii; see also Ex. R, ¶26-29, 33.

B. Google’s § 112 Written Description Arguments Fail

Google has failed to prove a lack of written description by clear and convincing evidence.⁵

i. Brief Overview of Relevant Aspects of the “Zone Scene” Technology

As explained in the “Background” of the ’885 Patent, there were various limitations and problems with “conventional multi-zone audio system[s]” comprising traditional audio players that were connected by speaker wire to a “centralized” A/V receiver, including difficulties in grouping different audio players together at different times. See ’885 Pat., 1:46-2:16. To address these limitations, the ’885 Patent begins by describing a new type of *networked* multi-zone audio system comprised of data network devices that are configured to process and output audio, which are referred to as “zone players.” See ’885 Pat., FIG. 1, 4:49-6:27; Ex. R, ¶37-38. Unlike the audio players in “conventional multi-zone audio system[s],” each such “zone player” is capable of communicating with other device over a data network and also has a processor and memory. *Id.*

The ’885 Patent discloses that each “zone player” is capable of playing back audio individually (*i.e.*, on its own). See ’885 Pat., 4:44-5:2, 5:21-6:27, 6:39-43; Ex. R, ¶39. Additionally,

⁴ See *Lockhart v. United States*, 577 U.S. 347, 351 (2016) (using the grammatical “rule of the last antecedent,” which provides that a limiting clause or phrase should ordinarily be read as modifying only the noun or phrase that it immediately follows, to interpret a subordinate clause as referring to the immediately preceding item only).

⁵ *AbbVie Deutschland GmbH v. Janssen Biotech, Inc.*, 759 F.3d 1285, 1297 (Fed. Cir. 2014).

1 the '885 Patent discloses that each “zone player” is also capable of being grouped together with
 2 one or more other “zone players” for synchronous audio playback. *See* '885 Pat., 5:16-20, 5:57-
 3 6:7, 6:43-48, 7:35-41, 7:58-9:30, 10:4-11:20; Ex. R, ¶39. In this respect, each “zone player” will
 4 be operating in one of two states at any given time: (i) a first state in which the “zone player” is not
 5 actively grouped with any other “zone player” but rather is configured to play back audio
 6 individually (*i.e.*, a non-grouped or standalone mode) or (ii) a second state in which the “zone
 7 player” is actively grouped with one or more other “zone players” such that it is configured to
 8 synchronize audio playback as part of that group (*i.e.*, a grouped mode). *Id.*

9 As explained in the '885 Patent, one process for grouping “zone players” together for
 10 synchronous playback in a networked multi-zone system involves a user selecting the particular
 11 “zone players” to include in the group in an ad-hoc manner, one-by-one, at the time the user wishes
 12 to activate the group for synchronous playback. '885 Pat., 8:30-44; Ex. R, ¶40. However, the '885
 13 Patent notes that this process “may be sometimes quite time consuming,” because each time the
 14 user wishes to activate a different group for synchronous playback, the user has to repeat the ad-
 15 hoc process of selecting each of the “zone players” to include in the group even if it is a grouping
 16 that has previously been formed and activated by the user on many other occasions in the past. *Id.*

17 In view of these drawbacks with ad-hoc grouping, the '885 Patent describes a new process
 18 for grouping “zone players” together for synchronous playback using a “zone scene,” which
 19 comprises a “predefined” group of “zone players” that is first pre-configured by a user and is then
 20 made available for future use so that a user can later activate the group for synchronous playback.
 21 *Id.*, 8:45-9:30, 10:4-11:20, FIGs. 5A-B, 6; D.I. 249-11, Ex. 7 ('407 Provisional, App'x A). This
 22 new grouping process enables a user to activate a group of “zone players” for synchronous playback
 23 in a more seamless manner, because instead of having to select each “zone player” to include in the
 24 group in an ad-hoc manner at the time the user wishes to use the group, the user can simply select
 25 a previously saved “zone scene” comprising a predefined version of the group. Ex. R, ¶41.

26 As disclosed, grouping “zone players” using a “zone scene” involves two phases. During a
 27 first “setup” phase, the “zone players” to be included in the predefined group are added to the “zone
 28 scene” based on a user’s input and the “zone scene” is saved for future use – but the predefined

group of “zone players” is not activated for synchronous playback at this time. *See* ’885 Pat., 8:45-51, 10:4-19, 10:36-52, 11:12-19; D.I. 249-11, 1-2, 9-16; Ex. R, ¶42. Rather, the predefined group of “zone players” initially exists in an inactive state. *Id.* Thereafter, during a second phase, the saved “zone scene” can be “invoked” at the user’s request, which is what causes the predefined group of “zone players” to become activated for synchronous audio playback. *See, e.g.,* ’885 Pat., 9:16-20, 10:53-63; D.I. 249-11, 1-8; Ex. R, ¶42. As explained in detail below, the ’885 Patent also discloses that a user can set up multiple different “zones scenes” comprising multiple different predefined groups of “zone players,” including predefined groups with overlapping members.

ii. There Is Support for “Zone Scenes” With Overlapping “Zone Players”

According to Google, the ’885 Patent does not have support for limitations 1.6-1.7 – which are directed to setup of two “zone scenes” that both include the claimed “zone player” – because “the specification never discloses that a zone player may be added to two zone scenes at the same time.” D.I. 249, 20-21. Google is wrong – this subject matter is plainly disclosed. Ex. R, ¶44-51.

First, the ’885 Patent discloses that after one “zone scene” has been set up (i.e., created and saved), a user may “go back . . . to **configure another [zone] scene** if desired” – which conveys to a POSITA that any number of different “zone scenes” can be set up for a given system and exist at the same time. *See* ’885 Pat., FIG. 6, 10:51-52; Ex. R, ¶45.

Second, the ’885 Patent discloses examples where multiple different “zone scenes” have been set up and are in existence at the same time. *See, e.g.,* ’885 Pat., FIG. 8 (disclosing “Wakeup” and “Garden Party” scenes that are in existence at the same time); *see also id.*, 8:52-9:19 (disclosing four different examples of “zone scenes” for a given system); Ex. R, ¶46.

Third, the ’885 Patent discloses that when a user is selecting which “zone players to add during setup of each “zone scene,” the user is presented with “ALL the zones in the system, **including the zones that are already grouped**” – which conveys to a POSITA that each “zone scene” being set up can include **any** grouping of “zone players” in a multi-zone audio system, regardless of whether the “zone players” are included in any other “zone scenes” and thus that multiple “zone scenes” with one or more overlapping “zone players” can be set up and exist at the same time. *See* ’885 Pat., 10:12-19; *see also id.*, 10:4-6; 10:36-42; Ex. R, ¶47.

1 *Fourth*, in the discussion at 8:52 – 9:19, the '885 Patent discloses four different examples
2 of “zone scenes” in a given system that have overlapping members:

- 3 • a first “zone scene” named “Morning” that comprises a predefined group of the
4 Bedroom, Den, and Dining Room “zone players”;
- 5 • a second “zone scene” named “Evening” that also comprises one predefined group of
6 the Bedroom, Den, and Dining Room “zone players” (as well as another predefined
7 group of the Garage and Garden “zone players”);
- 8 • a third “zone scene” comprising one predefined group of “zone players” located
9 “upstairs” and another predefined group of “zone players” located “downstairs” (at least
10 one of which would include the Bedroom, Den, and/or Dining Room players); and
- 11 • a fourth “zone scene” that comprises a predefined group of “all zones” in the system,
12 including the Bedroom, Den, and Dining Room “zone players.” *See also* Ex. R, ¶48.

13 *Fifth*, the '885 Patent discloses that “*various scenes* may be saved in *any* of the [zone
14 player] members in a group” – which conveys to a POSITA that each “zone player” can be included
15 in multiple different “zone scenes” in existence at the same time. '885 Pat., 2:56-59; Ex. R, ¶49.

16 Thus, a POSITA would conclude that the inventor of the '885 Patent was in possession of
17 having two different “zone scenes” with an overlapping “zone player,” as claimed. Ex. R, ¶50.

18 Instead of addressing the above-described disclosures from the '885 Patent, Google focuses
19 its challenge on the disclosure in the “Background” section at 2:5-12, which explains how
20 “conventional” audio systems did not allow for multiple different groups of audio players having
21 overlapping members to exist at the same time such that any one of the groups could be activated
22 when desired (among many other deficiencies). D.I. 249, 21-22. According to Google, this prior
23 art paragraph somehow “teaches away” from the claimed invention of having multiple “zone
24 scenes” with overlapping players (D.I. 249, 21), which makes no sense.⁶ Ex. R, ¶51. Contrary to
25 Google’s illogical contention, the purpose of this paragraph is to highlight a specific problem with
26 “conventional” systems that the '885 Patent is intended to solve, and the '885 Patent then goes on
27 to disclose technology that solves this problem by allowing multiple “zone scenes” having
28 overlapping members to be set up and exist at the same time. *Id.* Thus, applying Sonos’s disclosed

⁶ To the extent Google is asserting that the claimed “first” and “second” “zone scenes” need to
“exist[] at the same time” (D.I. 249, 21) in a manner where they are *both* invoked and being “used
at the same time” (D.I. 249-1 (Schonfeld Decl.), ¶47), this is obviously not required by claim 1. In
contrast, limitations 1.8-1.10 expressly recite that only “*a given one* of the first and second zone
scenes” is “selected for invocation.” If, at a later time, a user wishes to invoke the other “first” or
“second” “zone scene,” the user may do so per dependent claims 3 and 6.

1 technology to the scenario discussed at 2:5-12, a user could first set up three different “zone scenes”
 2 for the morning, evening, and weekend, all having an overlapping “zone player” in the “den,” and
 3 then be able to later select any one of these “zone scenes” in order to activate the group for playback.

4 **iii. There Is Support for the Claimed Sequence of Operation**

5 Google next argues that there is no support for the “first zone player” “continuing to operate
 6 in the standalone mode [after setup of the first and second zone scenes] until a given one of the first
 7 and second zone scenes has been selected for invocation” and thereafter “transitioning from
 8 operating in the standalone mode to operating in accordance with the given one of the first and
 9 second predefined groupings of zone players,” as required by limitations 1.8 and 1.10. *See* D.I.
 10 249, 22-24. Google is wrong – this subject matter is plainly disclosed as well. *See* Ex. R, ¶52-60.

11 *First*, a POSITA would understand that the claimed “standalone mode in which the first
 12 zone player is configured to play back media individually” refers to a “zone player” operating in a
 13 non-grouped state in which it is configured to play back audio on its own, rather than as part of a
 14 group for synchronous playback. *See* Ex. R, ¶53. As explained above, the ’885 Patent clearly
 15 discloses that “zone players” are capable of operating in such a “standalone mode.” *Supra* II.B.i.;
 16 ’885 Pat., 4:44-5:2, 5:21-6:27, 6:39-43; Ex. R, ¶39, 53.^{7, 8}

17 *Second*, as explained in response to Google’s first § 112 argument, the ’885 Patent does
 18 disclose that a “zone player” can be added to multiple different “zone scenes.” *Supra* II.B.ii.

19 *Third*, the ’885 Patent discloses that a “zone scene” is a group of “zone players” that is
 20 “predefined” and “saved” for future use during a “setup” phase, but is not activated for synchronous
 21 playback at that time. *Supra* II.B.i; ’885 Pat., 8:45-51, 10:4-19, 10:36-52, 11:12-19; D.I. 249-11,
 22 1-2, 9-16; Ex. R, ¶55. Rather, the predefined group of “zone players” initially exists in an inactive
 23 state, which is what the ’885 Patent explains when distinguishing a “zone scene” from an ad-hoc
 24 group that is automatically activated at the time it is formed rather than being predefined and saved
 25 for future use. *Id.* In this respect, the ’885 Patent discloses that, unlike for an ad-hoc group, the

26 ⁷ That the ’885 specification does not use the term “standalone mode” verbatim does not mean
 27 that there is no written description support for that claim term. *See Novartis Pharms. Corp. v.*
Accord Healthcare, Inc., 21 F.4th 1362, 1370 (Fed. Cir. 2022).

28 ⁸ Notably, although not relevant to whether there is written description support, Google appears to
 be improperly interpreting the claim term “standalone mode” to require that the “first zone
 player” be engaged in *active* playback. D.I. 249, 22. A “zone player” can be in “standalone
 mode” whether or not the “zone player” is engaging in active playback. Ex. R, ¶53 n5.

1 act of adding “zone players” to a “zone scene” does not cause those “zone players” to become
 2 linked together for synchronous playback at that time. Ex. R, ¶53. This conveys to a POSITA that
 3 a “zone player” operating in “standalone mode” prior to being added to each new “zone scene” will
 4 continue to operate in “standalone mode” after being added to each new “zone scene.” *Id.*

5 *Fourth*, the ’885 Patent discloses that the subsequent act of “invoking” a “zone scene” is
 6 what activates the “zone scene” for synchronous playback by causing the “zone players” in the
 7 invoked “zone scene” to become configured to play audio in synchrony in accordance with a given
 8 “zone scene.” *Supra* II.B.i; ’885 Pat., 9:16-20, 10:53-63; Ex. R, ¶56.

9 These disclosures clearly convey to a POSITA that the inventor of the ’885 Patent was in
 10 possession of the claimed functionality of limitations 1.8 and 1.10. Ex. R, ¶57. In fact, this claimed
 11 sequence of operation is directly in line with the fundamental characteristics of the disclosed “zone
 12 scene” technology – namely, that a “zone scene” is first set up to include a predefined group of
 13 “zone players” that is not immediately activated, and that group is then activated at a later time.

14 Google again failed to address most of the above-described disclosures, and instead focused
 15 on other disclosures from the ’885 Patent that have only tangential relevance to the claimed
 16 functionality Google is challenging. For instance, while challenging the ’885 Patent’s disclosure
 17 of a “zone player” “continuing to operate in the standalone mode” after it “has been added” to first
 18 and second “zone scenes” per limitation 1.8, which relates to the initial “setup” phase for these
 19 “zone scenes,” Google ignores the foregoing disclosure regarding what a “zone scene” is and how
 20 it is set up, and instead attacks disclosure from the ’885 Patent and its provisional that discusses
 21 what happens when a “zone scene” that has previously been set up is subsequently “activat[ed].”
 22 D.I. 249, 22-23 (citing to ’885 Pat., 10:56-58; D.I. 249-11, 4). In this respect, Google appears to
 23 be conflating the function of *setting up* a “zone scene” – which is when a “zone player” is “added”
 24 to the “zone scene” – with the subsequent function of *activating* the “zone scene.” Thus, while the
 25 disclosure discussed by Google does provide written description support for limitation 1.10, which
 26 recites the functionality of the “first zone player” when a “zone scene” is “*invoked*”, it is irrelevant
 27 to Google’s arguments related to limitation 1.8, which recites the functionality of the “first zone
 28 player” after being added to “zone scenes” that have been set up but have not yet been “invoked.”

C. Google's § 101 Unpatentable Subject Matter Argument Fails

Google has failed to prove that claim 1 is unpatentable by clear and convincing evidence.⁹

i. *Alice* Step 1: Claim 1 Is Not Directed to an Abstract Idea

It is well established that claims directed to a specific improvement to existing technology are not abstract under *Alice* step one. *See, e.g., Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1338-39 (Fed. Cir. 2016). That is the exact situation presented by claim 1 of the '885 Patent, which recites technology that provides specific, technical improvements over existing "multi-zone audio system[s]" that play audio in different areas within a user's home. '885 Patent at 1:35-2:16.

For instance, claim 1 recites a "zone player" in a "networked media playback system" comprising at least two other "zone players" and a "network device," where the "zone player" includes "one or more processors," "a non-transitory computer-readable medium" encoded with executable "program instructions," and a "network interface" that enables communication with other data network devices over "at least one data network." This is a specific type of audio player that improves upon "conventional multi-zone audio system[s]" comprised of "audio players" that were connected by speaker wire to a centralized A/V receiver and did not have the capability to communicate over a data network or process digital data, which made such systems "inflexible," "difficult" to use, and "not [] suitable" for many users. '885 Pat., 1:46-2:16; Ex. R, ¶63.

Further, claim 1 recites that the claimed networked "zone player" is programmed with a specific set of functionality that enables the "zone player" to receive indications that it "has been added" to multiple different "zone scenes" while continuing to operate in a "standalone mode" for audio playback, and then when later instructed, to operate in accordance with one of the "zone scenes" by coordinating with at least one other "zone player" in the "zone scene" in order to "output media in synchrony with output of media by the at least one other zone player." As explained by the '885 Patent, this "zone scene" technology provides additional improvements over "conventional multi-zone audio system[s]," which were "hard-wired," "pre-configured," and "pre-programmed" in a way that made it "inconvenient" (if not impossible) to group "audio players" for playback. '885 Pat., 1:63-24. Further, as explained by the '885 Patent, this "zone scene" technology *also* improves over the existing technology for grouping "zone players" within a *networked* multi-

⁹ *See Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018).

1 zone audio system, which required group members to be selected in a “time consuming,” ad-hoc
 2 manner each time a group was to be activated for synchronous playback. *Id.*, 8:30-45; Ex. R, ¶64.

3 Accordingly, because claim 1 is directed to specific technology that improves upon existing
 4 “multi-zone audio system” technology, it is not abstract under *Alice* step one.

5 The issue here is almost identical to that presented in *Sonos vs. D&M Holdings Inc.*, No.
 6 14-1330, 2017 WL 971700 (D. Del. Mar. 13, 2017). There, the court addressed the patent eligibility
 7 of four other Sonos patents directed to technology that improved upon existing audio systems –
 8 including technology for grouping and controlling “zone players” (also referred to as “playback
 9 devices”) in a networked audio system – and concluded that *none* of the claims were abstract. *Id.*
 10 at *5-8. In so finding, the court noted that the claims (i) require “tangible limitations that are tied
 11 to specific devices,” including “zone players” with data networking and processing capability, (ii)
 12 are directed to a “specific improvement” to existing audio devices, which are “specific devices”
 13 and “not generic technology,” and (iii) “involve controlling the devices to effect tangible changes
 14 in their configurations.” *Id.* For the same reasons, claim 1 here is not abstract.

15 Other courts have consistently found comparable claims not abstract. *See CardioNet, LLC*
 16 *v. InfoBionic, Inc.*, 955 F.3d 1358, 1368-71 (Fed. Cir. 2020) (finding claims directed to “improved
 17 cardiac monitoring device” not abstract); *Huawei Techs., Co, Ltd v. Samsung Elecs. Co, Ltd.*, No.
 18 16-2787, 2016 WL 6834614, at *7-11 (N.D. Cal. Nov. 21, 2016) (finding claims directed to
 19 “‘improv[ing] the functioning’ of the mobile communication system” not abstract); *MicroPairing*
 20 *Techs. LLC v. Am. Honda Motor Co.*, No. 21-4034, 2021 WL 6618817, at *7 (C.D. Cal. Dec. 9,
 21 2021) (finding claims were directed to “improvements to the computer capabilities of an
 22 automobile audio system” as opposed to an “abstract idea”); *M2M Sols. LLC v. Sierra Wireless*
 23 *Am., Inc.*, No. 14-1102, 2020 WL 7767639, at *8 (D. Del. Dec. 4, 2020) (finding claims directed
 24 to a “concrete programmable communicator device having a processing module and an interface”
 25 that is “configured in a specific manner to improve the functioning of the device” not abstract).

26 Google’s contrary arguments should be dismissed. For instance, unlike the cases Google
 27 relied on, claim 1 of the ‘885 Patent does not describe “mathematical algorithms” or “fundamental
 28

economic and conventional business practices” of the sort that constitute “abstract ideas.”¹⁰ See *DDR Holdings, LLC v. Hotels.com, LP*, 773 F.3d 1245, 1256-57 (Fed. Cir. 2014). Similarly, unlike the patents at issue in Google’s cases that were devoid of any technical details, the ’885 Patent thoroughly describes the claimed “zone player” and its functionality.¹¹ ’885 Patent at 4:39-11:20.

ii. *Alice* Step 2: Claim 1 Includes an Inventive Concept

Claim 1 is not directed to an abstract idea, so the Court need not reach *Alice* step two. However, for similar reasons to those discussed above, claim 1 also supplies an “inventive concept” under *Alice* step two that overcomes any possible concern of abstractness under § 101. While Google contends that claim 1 covers only “generic computer components ... performing their routine and conventional functions” (D.I. 249, 17), that is incorrect. The claimed “zone player” is not generic or conventional, and they perform more than routine and conventional functions.

For instance, as noted above, claim 1 is directed to a non-conventional and specific type of audio player referred to as a “zone player,” which is equipped with data networking and digital processing capabilities that make it structurally and functionally very different from “conventional” audio players. Moreover, as noted above, the claimed “zone player” is programmed with non-conventional functionality that enables it to not only play back audio individually, but also to play back audio in synchrony with at least one other “zone player” through the use of the specific “zone scene” technology recited in claim 1. Google has not established that the specific set of technological capabilities recited in claim 1 were routine or conventional. In fact, Google’s cited evidence confirms that “conventional” audio players did *not* have these capabilities. D.I. 249, 18.¹²

¹⁰ See *In re TLI Commc'ns LLC Pat. Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016) (claims “directed to the abstract idea of classifying and storing digital images in an organized manner”); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (claims directed to “a process of gathering and analyzing information”); *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1344 (Fed. Cir. 2018) (claims directed to “providing someone an additional set of information”); *Affinity Labs of Texas, LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1271 (Fed. Cir. 2016) (claims directed to “the general idea of customizing a user interface.”).

¹¹ See, e.g., *Interval Licensing*, 896 F.3d at 1345 (finding specification “lacks any description for how a display device would [function]”); *Affinity Labs*, 838 F.3d at 1271 (finding “neither the claim nor the specification reveals any concrete way of employing a customized user interface.”).

¹² Setting aside Google’s mischaracterizations, the cited Sonos document describes conventional audio systems as having “amplifiers and wiring to distribute audio” via “speaker wires” to non-networked speakers and recognizes their various “challenges” and “limitations,” which is consistent with the ’885 Patent’s discussion of “conventional” audio systems. D.I. 249-7, 677-78.

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